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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

AF/27526
#14 Appeal

Brief

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Applicant: Nobuaki Onagi

Serial No.: 08/891,308

Filed: July 10, 1997

Art Unit: 2752

For: SUPER RESOLUTION INFORMATION REPRODUCTION BY TRACKING
ADDRESS INFORMATION IN NORMAL RESOLUTION

Examiner: Chu, K.

TRANSMITTAL OF APPEAL BRIEF

Box AF
Honorable Commissioner of Patents
and Trademarks
Washington, D.C. 20231

SIR:

Enclosed is an original brief to the Board of Patent Appeals and Interferences and three photocopies thereof. This brief is being filed pursuant to the Notice of Appeal which was apparently accorded a filing date of December 04, 2000 by the Patent and Trademark Office.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

Application Serial No. 08/891,308

Filed: July 10, 1997

**SUPER RESOLUTION INFORMATION REPRODUCTION BY
TRACKING ADDRESS INFORMATION IN NORMAL
RESOLUTION**

Ex parte: Nobuaki Onagi

BRIEF FOR THE APPELLANT

Pitney, Hardin, Kipp & Szuch LLP
Attorneys for the Appellant

I. REAL PARTY IN INTEREST

The real party in interest is the assignee, Pioneer Electric Corporation.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interference actions.

III. STATUS OF CLAIMS

Claims 1-10 have been allowed.

Claims 11-23 are rejected under 35 U.S.C. 251 as being an alleged improper recapture of canceled claimed subject matter.

IV. STATUS OF AMENDMENTS

A final Office Action was dated August 01, 2000. A Notice of Appeal, without an Amendment, was filed in response thereto.

V. SUMMARY OF INVENTION

A principal object of the present invention is to provide an optical disk, an optical disk reproducing and an optical disc recording apparatus, which are not influenced by crosstalk, etc. even if they are intermingled with the information pits and the address pits. A high density record is possible on the optical disk.

VI. ISSUES

Are Claims 11-23 patentable under 35 U.S.C. 251 as not an improper recapture of canceled claimed subject matter surrendered in the application for the patent upon which the present reissue is based?

VII. GROUPING OF CLAIMS

The claims are deemed to stand or fall together for each ground of rejection.

VIII. ARGUMENT

At the outset, the disclosure and particularly the claims of the present application relate to an optical disk including a substrate shaped in a disk, and having a recording surface; a plurality of recording tracks formed substantially co-axially on the recording surface; a plurality of information pits, recorded on a plurality of recording tracks in a recording operation of the optical disk; and an address pit for address reproduction formed in advance to the recording operation on the recording surface with respect to one set of recording tracks adjacent to each other in a radial direction of the optical disk.

Claims 11-23 are patentable under 35 U.S.C. §251 as not an improper recapture of cancelled claimed subject matter surrendered in the application for the patent upon which the

present re-issue is based. In the parent application of the reissue application, claims were amended on December 21, 1994, partially against the rejection under 35 U.S.C. §103 based on prior art disclosed in the present application. However, in the same office action of September 26, 1994 there was a rejection under 35 USC §112 as well as under 35 U.S.C. §103. The result was an amendment on December 21, 1994 that includes portions which clarify the claims.

The portions before the amendment were indicated by the examiner as unclear.

Particularly, "disk is magneto-optical disk" or not (item 4 of the Office Action) and the meaning of "reproducible, by a super resolution reproduction" (item 6 of the Office Action) were indicated as unclear portions in the claims. Corresponding to this rejection under 35 U.S.C. §112 in claims 1, 3 and 8, the new limitations of "magneto-optical disk", and "to be reproduced by forming a light spot with a predetermined diameter thereon," and "recorded on said plurality of recording tracks as magnetization directions at said recording surface in a magneto-optical recording operation" were added in the December 21, 1994 amendment.

The limitations of the December 21, 1994 amendment were not added as limitations to distinguish the present invention over the prior art, in view of the contents of the limitations and

the contents of the prior arts disclosed. Figure 1 of the present application discloses the address pit information and information pit which are formed on the land sectioned by the groove in the technical field of the magneto-optical disk. Also, disclosed as other prior art was the Japanese Applied Magnetic Academy's paper investigating the super resolution reproduction in the technical field of the magneto-optical disk which states a super-resolution magneto optical disk.

Portions of the December 21, 1994 amendment dedicated to distinguish over the prior art are that (i) "the information pits are arranged with a high pit density" and that (ii) the address pit having "convex or concave shape on the recording surface" is "arranged with low pit density." Since these portions of the amendment were new and not obvious from the prior arts, the patentability of the present application has been acknowledged in the parent application through the examination.

Other portions of the amendment, "so as to be non-reproducible" and "so as to be reproducible by a normal resolution reproduction" were dedicated to make the claims even clearer.

In claims 11, 14, and 20 of the reissue application, the limitations which are the same as the portions of the amendment on December 21, 1994 dedicated to distinguish the present

invention over the prior art are certainly included. (See claim 11, line 10 and 11; claim 14, lines 10 and 11 and claim 20, lines 9 and 10). Such portions include "the information pits are arranged with a high pit density" and at the same time with respect to the information pits, the address pit having "convex or concave shape on the recording surface" is "arranged with a low pit density."

Excess and non-indispensable limitations were added in the December 21, 1994 amendment in the attempt to clarify the claims to overcome the rejection under 35 U.S.C. §112. Each of claims 11, 14, and 20 in the present reissue application do not include such erroneously added limitations but the claims do include limitations to distinguish the present invention over the prior art as indicated above.

The leading case in this area appears to be In re Clement, 45 USPQ2d 1161, (Fed.Cir. 1997) cited in the Office Action relating to this application. As that case notes, the recapture rule is applicable to prevent an applicant from re-prosecuting (in a re-issue application) claims amended to overcome a prior art rejection. Where a claim is amended to overcome a reference, there is an implicit admission that the claim before amendment is not patentable over the reference. The recapture rule does not apply in the absence of evidence that the applicant's amendment was "an admission that the scope of the

claim was not in fact patentable". See the "Discussion" beginning on page 1163.

Claims 11, 14 and 20 do not seek to recapture subject matter that was given up during prosecution of the parent case to avoid prior art. The limitations to overcome the prior art re-appear in each of the new claims. What the new claims seek to do is to correct the error that was made by not fully appreciating the scope of the invention with regard to the amendments that were made to the original claims to overcome the 35 USC §112 rejections. It is respectfully submitted that with regard to such amendments, the recapture rule is inapplicable.

In view of the above, it is respectfully submitted that claims 11-23 of the present reissue application are not an improper recapture attempt but rather properly seek to correct applicant's claiming less than he was allowed to claim and that all of the pending claims are patentable.

The Board is respectfully requested to find all of the presently pending claims to be allowable.

Respectfully submitted,

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APPENDIX OF PRESENTLY PENDING CLAIMS

1. An optical disk, to be reproduced by forming a light spot with a predetermined diameter thereon, comprising:

a substrate shaped in a magneto-optical disk, and having a recording surface;

a plurality of recording tracks formed substantially coaxially on the recording surface.

a plurality of information pits, which are recorded on said plurality of recording tracks as magnetization directions at said recording surface in a magneto-optical recording operation and are arranged with such a high pit density as to be non-reproducible by a normal resolution reproduction by use of the light spot but reproducible by a super resolution reproduction by use of the light spot; and

an address pit for address reproduction formed in advance to the recording operation on the recording surface with respect to one set of recording tracks adjacent to each other in a radial direction of the optical disk, having a convex or concave shape on the recording surface and being arranged with such a low pit density as to be reproducible by a normal resolution reproduction by use of the light spot.

2. An optical disk as set forth in claim 1, wherein said address pit is larger than said information pit in the radial direction of said optical disk.

3. An optical disk, to be reproduced by forming a light spot with a predetermined diameter thereon, comprising:

a substrate shaped in a magneto-optical disk, and having a recording surface;

a recording track including a plurality of lands and a plurality of grooves, and formed substantially coaxially on the recording surface;

a plurality of information pits, which are recorded on both of the land and the groove as magnetization directions at said recording surface in a magneto-optical recording operation and are arranged with such a high pit density as to be non-reproducible by a normal resolution reproduction by use of the light spot but reproducible by a super resolution reproduction by use of the light spot; and

an address pit for address reproduction formed in advance to the recording operation on the recording surface with respect to one set of the land and the groove adjacent to each other in a radial direction of the optical disk, having a convex or concave shape on the recording surface and being arranged with such low pit density as to be reproducible by a normal resolution reproduction by use of the light spot.

4. An optical disk as set forth in claim 3, wherein said address pit is formed on said groove.

5. An optical disk as set forth in claim 3, wherein said address pit is formed on said land.

6. An optical disk as set forth in claim 3, wherein said address pit is formed such that the central axis of said address pit is positioned between the central axis of the groove and the central axis of the land.

7. An optical disk as set forth in claim 3, wherein said address pit is larger than said information pit in the radial direction of said optical disk.

8. An optical disk reproducing apparatus for reproducing an optical disk, to be reproduced by forming a light spot with a predetermined diameter thereon comprising:

a substrate shaped in magneto-optical disk, and having a recording surface; a recording track including a plurality of lands and a plurality of grooves, and formed substantially coaxially on the recording surface; a plurality of information pits, which are recorded on both of the land and the groove as magnetization directions at said recording surface in a magneto-optical recording operation and are arranged with such a high pit density as to be non-reproducible by a normal resolution reproduction by use of the light spot but reproducible by a super resolution by use of the light spot; and an address pit for address reproduction formed in advance to the recording operation on the recording surface with respect to one set of

the land and the groove adjacent to each other in a radial direction of the optical disk, having a convex or concave shape on the recording surface and being arranged with such a low pit density as to be reproducible by a normal resolution reproduction by use of the light spot, said apparatus comprising:

an optical pickup for irradiating a read beam onto said optical disk to form the light spot with the predetermined diameter and reading information recorded on said optical disk;

a first driving means for searching the address pit corresponding to a desired land or groove by driving the optical pickup, and for driving the read beam to a recording position of the address pit when reproducing the information pit on the desired land or groove; and

a second driving means for driving the read beam to the desired land or groove from the recording position of the address pit.

9. An optical disk reproducing apparatus as set forth in claim 8, wherein said address pit is formed on said groove.

10. An optical disk reproducing apparatus as set forth in claim 8, wherein said address pit is formed on said land.

11. An optical disk, to be reproduced by forming a light spot with a predetermined diameter thereon comprising:

a substrate shaped in an optical disk, and having a recording surface;

a plurality of recording tracks formed substantially coaxially on the recording surface;

a plurality of information pits, which are recorded on said plurality of recording tracks at said recording surface in an optical recording operation and are arranged with a first pit density; and

an address pit for address reproduction formed in advance to the recording operation on the recording surface with respect to one set of recording tracks adjacent to each other in a radial direction of the optical disk, having a convex or concave shape on the recording surface and being arranged with a second pit density which is lower than said first pit density.

12. An optical disk as set forth in claim 11, wherein a plurality of address pits each having a same construction as said address pit are formed on the recording surface such that one address pit corresponds on one line in the radial direction of said optical disk, to said one set of recording tracks.

13. An optical disk as set forth in claim 11, wherein said address pit is larger than said information pit in the radial direction of said optical disk.

14. An optical disk, to be reproduced by forming a light spot with a predetermined diameter thereon, comprising:

a substrate shaped in an optical disk, and having a recording surface;

a recording track including a plurality of lands and a plurality of grooves, and formed substantially coaxially on the recording surface;

a plurality of information pits, which are recorded on both of the land and the groove at said recording surface in an optical recording operation and are arranged with a first pit density; and

an address pit for address reproduction formed in advance to the recording operation on the recording surface with respect to one set of the land and the groove adjacent to each other in a radial direction of the optical disk, having a convex or concave shape on the recording surface and being arranged with a second pit density, which is lower than said first pit density.

15. An optical disk as set forth in claim 14, wherein a plurality of address pits each having a same construction as said address pit are formed on the recording surface such that one address pit corresponds, on one line in the radial direction of said optical disk, to said one set of the land and the groove.

16. An optical disk as set forth in claim 14, wherein said address pit is formed on said groove.

17. An optical disk as set forth in claim 14, wherein said address pit is formed on said land.

18. An optical disk as set forth in claim 14, wherein said address pit is formed such that a central axis of said address pit is positioned between a central axis of the groove and a central axis of the land.

19. An optical disk as set forth in claim 14, wherein said address pit is larger than said information pit in the radial direction of said optical disk.

20. An optical disk reproducing apparatus for reproducing an optical disk, to be reproduced by forming a light spot with a predetermined diameter thereon, comprising: a substrate shaped in a optical disk, and having a recording surface; a recording track including a plurality of lands and a plurality of grooves, and formed substantially coaxially on the recording surface; a plurality of information pits, which are recorded on both of the land and the groove at said recording surface in an optical recording operation and are arranged with a first pit density; and an address pit for address reproduction formed in advance to the recording operation on the recording surface with respect to one set of the land and the groove adjacent to each other in a radial direction of the optical disk; having a convex or concave shape on the recording surface and being arranged with a second

pit density, which is lower than said first pit density, said apparatus comprising;

an optical pickup for irradiating a read beam onto said optical disk to form the light spot with the predetermined diameter and reading information recorded on said optical disk;

a first driving means for searching the address pit corresponding to a desired land or groove by driving the optical pickup, and for driving the read beam to a recording position of the address pit when reproducing the information pit on the desired land or groove; and

a second driving means for driving the read beam to the desired land or groove from the recording position of the address pit.

21. An optical disk reproducing apparatus as set forth in claim 20, wherein a plurality of address pits each having a same construction as said address pit are formed on the recording surface such that one address pit corresponds, on one line in the radial direction of said optical disk, to said one set of the land and the groove.

22. An optical disk reproducing apparatus as set forth in claim 20, wherein said address pit is formed on said groove.

23. An optical disk reproducing apparatus as set forth in claim 20, wherein said address pit is formed on said land.